

CLAIMS

I Claim:

1. ~~A rotary cutting blade comprising a boron steel blank of a Rockwell C hardness of between 48 and 55 on the Rockwell Hardness Scale.~~
2. The rotary cutting blade of Claim 1 wherein the blank is formed of a boron steel selected from the group consisting of 10B36, 10B37, 10B38, 10B39, 10B40, 10B41 and 10B42 steel.
3. ~~A process for forming a rotary cutting blade, comprising the steps of~~
- ~~working a blank of boron steel to have a bevelled cutting edge; and~~
 - ~~heat treating the formed blank to elevate the blank hardness to between 48 and 55 on the Rockwell Hardness Scale.~~
4. The process of Claim 3, wherein the working step comprises cold-forming the blank of boron steel.
5. The process of Claim 3 wherein the blank is formed of a boron steel selected from the group consisting of 10B36, 10B37, 10B38, 10B39, 10B40, 10B41 and 10B42 steel.
6. The process of Claim 3 wherein the heat treating step comprises austempering the formed blank.
7. ~~The process of Claim 3 wherein the heat treating step comprises marquenching the formed blank.~~

8. The process of Claim 3 wherein the heat treating step comprises quenching the formed blank in a liquid selected from the group consisting of oil, polymer, or water, and tempering the quenched blank.

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9. The process of Claim 3 wherein the heat treating step comprises:
- a) heating the blank to approximately 1560 °F;
 - b) quenching the heated blank into a liquid salt bath at approximately 500 °F for about 20 seconds;
 - c) withdrawing the quenched blank from the salt bath and allowing it to air cool to room temperature; and
 - d) tempering the cooled blank at approximately 300 °F.

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10. The process of Claim 3 wherein the heat treating step comprises:
- a) heating the blank to approximately 1560 °F;
 - b) quenching the heated blank into a liquid salt bath at approximately 500 °F for about 20 minutes; and
 - c) withdrawing the quenched blank from the salt bath and allowing it to air cool to room temperature.

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